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Nov 6, 2001

US-PAT-NO: 6314409

DOCUMENT-IDENTIFIER: US 6314409 B1

TITLE: System for controlling access and distribution of digital property

DATE-ISSUED: November 6, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
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Abrams; Marshall D.	Silver Spring	MD		

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NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Veridian Information Solutions					02

APPL-NO: 09/ 178606 [PALM]

DATE FILED: October 26, 1998

PARENT-CASE:

This is a division of application Ser. No. 08/968,887, filed Nov. 5, 1997 which is a continuation of Ser. No. 08/584,493, filed Jan. 11, 1996, now abandoned.

INT-CL: [07] H04 L 9/00

US-CL-ISSUED: 705/54; 705/57, 380/259, 380/287, 380/59, 713/182, 713/189, 713/193, 713/194, 713/200

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FIELD-OF-SEARCH: 395/186, 395/187.01, 395/188.01, 380/4, 380/23, 380/25, 380/49, 380/50, 380/59, 380/200-204, 380/210, 380/255, 380/259, 380/277, 380/278, 380/279, 380/29, 380/30, 380/287, 705/43, 705/51, 705/52, 705/54, 705/57, 705/58, 713/150-152, 713/182, 713/189, 713/193, 713/194, 713/200, 713/201, 713/202

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected

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	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/>	3504132	March 1970	Wallace, Jr.	
<input type="checkbox"/>	3648020	March 1972	Tateisi et al.	705/43
<input type="checkbox"/>	3764742	October 1973	Abbott et al.	
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<input type="checkbox"/> 4924378		May 1990	Hershey et al.	
<input type="checkbox"/> 4932054		June 1990	Chou et al.	380/4

<input type="checkbox"/> -4937863 - J	1990 -	Robert et al.	380/4
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<input type="checkbox"/> 4961142	October 1990	Elliott et al.	
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<input type="checkbox"/> 5010571	April 1991	Katznelson	380/4
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<input type="checkbox"/> 5023907	June 1991	Johnson et al.	380/4
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<input type="checkbox"/> 5058164	October 1991	Elmer et al.	380/50
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<input type="checkbox"/> 5159182	October 1992	Eisele	235/492
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<input type="checkbox"/> 5204897	April 1993	Wyman	380/4
<input type="checkbox"/> 5222134	June 1993	Waite et al.	380/4
<input type="checkbox"/> 5235642	August 1993	Wobber et al.	
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<input type="checkbox"/> 5263158	November 1993	Janis	
<input type="checkbox"/> 5291596	March 1994	Mita	395/600
<input type="checkbox"/> 5301231	April 1994	Abraham et al.	
<input type="checkbox"/> 5319705	June 1994	Halter et al.	
<input type="checkbox"/> 5337357	August 1994	Chou et al.	
<input type="checkbox"/> 5339091	August 1994	Yamazaki et al.	
<input type="checkbox"/> 5345588	September 1994	Greenwood et al.	
<input type="checkbox"/> 5347578	September 1994	Duxbury	
<input type="checkbox"/> 5369702	November 1994	Shanton	
<input type="checkbox"/> 5386469	January 1995	Yearsley et al.	
<input type="checkbox"/> 5386471	January 1995	Bianco	
<input type="checkbox"/> 5388156	February 1995	Blackledge, Jr. et al.	
<input type="checkbox"/> 5392351	February 1995	Hasebe et al.	
<input type="checkbox"/> 5394469	February 1995	Nagel et al.	
<input type="checkbox"/> 5400403	March 1995	Fahn et al.	

<input type="checkbox"/>	5410598	April 1995	Shear	
<input type="checkbox"/>	5432849	July 1995	Johnson et al.	
<input type="checkbox"/>	5438508	August 1995	Wyman	
<input type="checkbox"/>	5442541	August 1995	Hube et al.	
<input type="checkbox"/>	5450489	September 1995	Ostrover et al.	
<input type="checkbox"/>	5457746	October 1995	Dolphin	
<input type="checkbox"/>	5473687	December 1995	Lipscomb et al.	
<input type="checkbox"/>	5504814	April 1996	Miyahara	
<input type="checkbox"/>	5530235	June 1996	Stefik et al.	
<input type="checkbox"/>	5574648	May 1998	Ryan et al.	
<input type="checkbox"/>	5592549	January 1997	Nagel et al.	380/4
<input type="checkbox"/>	5594491	January 1997	Hodge et al.	
<input type="checkbox"/>	5594936	January 1997	Rebec et al.	
<input type="checkbox"/>	5615264	March 1997	Kazmierczak et al.	
<input type="checkbox"/>	5629980	May 1997	Stefik et al.	
<input type="checkbox"/>	5638443	June 1997	Stefik et al.	
<input type="checkbox"/>	5646992	July 1997	Subler et al.	
<input type="checkbox"/>	5671276	September 1997	Eyer et al.	
<input type="checkbox"/>	5673316	September 1997	Auerbach et al.	380/4
<input type="checkbox"/>	5677953	October 1997	Dolphin	
<input type="checkbox"/>	5703951	December 1997	Dolphin	
<input type="checkbox"/>	5754649	May 1998	Ryan et al.	
<input type="checkbox"/>	5787172	July 1998	Arnold	
<input type="checkbox"/>	5796839	August 1998	Ishiguro	
<input type="checkbox"/>	5870474	February 1999	Wasilewski et al.	
<input type="checkbox"/>	5892900	April 1999	Ginter	
<input type="checkbox"/>	5910987	June 1999	Ginter	

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
0332707	September 1989	EP	
2236604	April 1991	GB	
9500355-4	August 1996	SE	
WO9220022	November 1992	WO	
WO93/01550	January 1993	WO	
96/27155	September 1996	WO	

OTHER PUBLICATIONS

Weber, R., "Metering Technologies For Digital Intellectual Property," A Report to the International Federation of Reproduction Rights Organization, Oct. 1994, pp. 1-29.

Clark, P.C. and-Ho...man, L.J., "Bits: A Smartcard Protected Operating System," Communications of the ACM, Nov. 1994, vol. 37, No. 11, pp. 66-70, and 94.

Saigh, W.K., "Knowledge is Sacred," Video Pocket/Page Reader Systems, Ltd., 1992.

Kahn, R.E., "Deposit, Registration And Recordation In an Electronic Copyright Management System," Corporation for National Research Initiatives, Virginia, Aug. 1992, pp. 1-29.

Hilts, P. Mutter, J., and Taylor, S., "Books While U Wait," Publishers Weekly, Jan. 3. 1994, pp. 48-50.

Strattner, A., "Cash register on a chip" may revolutionize software pricing and distribution; Wave Systems Corp., Computer Shopper. Copyright, Apr. 1994, vol. 14; No.4; p. 62.

O'Conner, M.A., "New distribution option for electronic publishers; iOpener data encryption and metering system for CD-ROM use; Column," CD-ROM Professional Copyright, Mar. 1994, vol. 7; No. 2; p. 134; ISSN:1049-0833.

Willet, S., "Metered PCs:Is your system watching you?"; Wave Systems beta tests new technology, InfoWorld, Copyright, May 2, 1994, p. 84.

Linn, R.J., "Copyright and Information Services in the Contest of the National Research and Education Network," IMA Intellectual Property Project Proceedings, Jan. 1994, vol. 1, Issue 1, pp. 9-20.

Perritt, Jr., H.H., "Permissions Headers ad Contract Law," IMA Intellectual Property Project Proceedings, Jan. 1994, vol. 1, Issue 1, pp. 27-48.

Upthegrove, L., and Roberts, R., "Intellectual Property Header Descriptors: A Dynamic Approach," IMA Intellectual Property Project Proceedings, Jan. 1994, vol. 1, Issue 1, pp. 63-66.

Sirbu, M.A., "Internet Billing Service Design and Prototype Implementation, IMA" Intellectual Property Project Proceedings, Jan. 1994, vol. 1, Issue 1, pp. 67-80.

Simmel, S.S., and Godard, I., "Metering and Licensing of Resources: Kala's General Purpose Approach," IMA Intellectual Property Project Proceedings, Jan. 1994, vol. 1, Issue 1, pp. 81-110.

Kahn, R.E., "Deposit, Registration and Recordation in an Electronic Copyright Management System," IMA Intellectual property Project Proceedings, Jan. 1994, vol. 1, Issue 1, pp. 111-120.

Tygar, J.D., and Bennet, Y., "Dyad: A System for Using Physically Secure Coprocessors," IMA Intellectual Property Project Proceedings, Jan. 1994, vol. 1, Issue 1, pp. 121-152.

Griswold, G.N., "A Method for Protecting Copyright on Networks," IMA Intellectual Property Project Proceedings, Jan. 1994, vol. 1, Issue 1, pp. 169-178.

Nelson, T.H., "A Publishing and Royalty Model for Networked Documents," IMA Intellectual Property Project Proceedings, Jan. 1994, vol. 1, Issue 1, pp. 257-259.

European Search Report for Corresponding European Application 95308420.9.

U. Flasche et al., Decentralized Processing of Documents, Comput. & Graphics, vol. 10, No. 2, 1986, pp. 119-131.

R. Mori et al., Superdistribution: The Concept and the Architecture, The Transactions of the IEICE, vol. E 73, No. 7, 1990, Tokyo, JP, pp. 1133-1146.

Rosse, P.E., "Data guard", Forbes, Jun. 6, 1994, pp. 101.

Xiao-Wen Yang et al., Key distribution system for digital video signal, ICSP '96. 1996 3rd International Conference on Signal Processing Proceedings (Cat. No. 96TH8116), vol. 2 1996, pp. 847-50.

E.A.I. Claus, Digital network for video surveillance and video distribution, Proc. SPIE--Int. Soc., Opt. Eng. vol. 2952 1996, pp. 194-204.

R. J. Bankapur et al., Switched digital video access networks, Bell Labs Tech. J. vol. 1 No. 1 Summer 1996, pp. 66-77.

C.A. Mandel et al., Intellectual access to digital documents:joining proven principles with new technologies, Cat. Classif. Q., vol. 22, No. 3-4 1996, pp. 25-42.

B.J. Goldsmith et al., Digital video distribution and transmission, International Broadcasting Convention (Conf. Publ. No. 428) 1996, pp. 26-31.

D. Van Schooneveld, Standardization of conditional access systems for digital pay television, Philips, J. Res. (UK), vol. 50, No. 1-2, 1996, pp. 217-25.

H.D. Wactlar, Intelligent access to digital video: Informedia projectComputer, vol. 29, No. 5, May 1996, pp. 46-52.

J.E. Dail et al., Adaptive digital access protocol: A MAC protocol for multiservice broadband access networks INS, IEEE Commun. Mag. vol. 34, No. 3, Mar. 1996, pp. 104-12.

S. Stevens et al., Informedia: improving access to digital video--Ins, Interactions, vol. 1, No. 4, Oct. 1994, pp. 67-71.

B. Hein et al., RACE 1051: a multigigabit transport and distribution technology for provision of digital video services--INS, Proc. SPIE--Int. Soc. Opt. Eng., vol. 1974, 1993, pp. 26-33.

Chen Ching-Chin et al., Analog, digital and multimedia: implications for information access INS, Online Information 91. 15th International Online Information Meeting Proceedings, 1991, pp. 283-92.

Abrams, M.D. et al, "Cryptography", Information Security--An Integrated Collection of Essays, Abrams M.D. et al eds., IEEE Computer Society Press 1995, pp. 350-384.

Choudhury, A.K. et al, "copyright Protection for electronic Publishing Over Computer Networks", IEEE Network, May/Jun. 1995, pp. 12-20.

Ciciora, W.S., "Inside the Set-Top Box", IEEE Spectrum, Apr. 1995, vol. 32, No. 4, pp. 70-75.

Department of Defense Standard, Department of Defense Trusted Computer System Evaluation Criteria, DOD 2500.28-STD, GPO 1986-623.

Marshall Abrams, et al, Generalized Framework For Access Control, Towards Prototyping the ORGCON Policy, Oct. 1991, pp. 1-20, Proc 1991 Nat'l Computer Security Conf.

Marshall D. Abrams, et al, Mediation and Separation in Contemporary Information Technology Systems, 1992, pp. 1-15, Proc. 1991 Nat'l Compute Security Conf.

Marshall D. Abrams, et al, Generalized Framework for Access Control: A Formal Rule Set for The ORGCON Policy, MITRE, Apr. 1992, pp. 1-58.

Marshall D. Abrams, Renewed Understanding of Access Control Policies, 1993, pp. 1-10, Proc. 16th National Computer Security Conference.

Leonard J. LaPadula, A Rule-Set Approach to Formal Modeling of a Trusted Computer System, Computing Systems Journal, Winter 1994, vol. 7, No. 1, pp. 113-167, pp. 1-38.

Graubart, R., "On the Need for a third form of Access control", Proceedings of the 12th National Computer Security Conference, 1989, pp. 296-303.

K. Brunnstein and P. P. Sint, eds., KnowRight'95, Intellectual Property Rights and New Technologies: Proceedings of the KnowRight'95 conference, austrian Computer.

Low, S.H. et al, "Document Marking and Identification using both Line and Word shifting", 1995 INFOCOM Proceedings, IEEE, 1995, pp. 853-860.

McCollum, C.J. et al, "beyond the Pale of MAC and DAC: Defining New Forms of Access Control", Proceedings of the Symposium on Research in Security and Privacy, IEEE Computer Society Press, 1990, pp. 190-200.

National Institute of Standards and technology (NIST) and National Security Agency (NSA), Federal Criteria for Information Technology Security: vol. 1, Protection Profile Development, vol. 11, Registry of Protection Profiles, Version 1.0, Dec. 1992.

Samuelson, P., "Copyright and Digital Libraries", Communications of the AMC, Apr. 1995, vol. 38, No. 3, pp. 15-20 & 110.

Samuelson, P. et al, "A Manifesto Concerning the Legal Protection of Computer Programs", Columbia Law Review, vol. 94, No. 8, pp. 2308-2431.

Sandhu, R.S. "The Typed Access Matrix Model", Proceedings of the Symposium on Research in Security and Privacy, IEEE Computer Society, 1992, pp. 122-136.

Sandhu, R.S. et al., "Implementation Considerations for the Typed Access Matrix Model in a Distributed Environment", Proceedings of the 15th National Computer Security Conference, 1992b, pp. 221-235.

Yee, B., "Using Secure Coprocessors", Carnegie Mellon University, School of Computer Science, CMU-CS-94-149, May 1994, (also available Defense Technical Information Center as AD-A281 255).

Maxem Chuk, N.F., Sep. 1994, "Electronic Document Distribution," AT&T technical Journal, pp. 73-80.

ART-UNIT: 362

PRIMARY-EXAMINER: Gregory; Bernarr E.

ATTY-AGENT-FIRM: Pillsbury Winthrop

ABSTRACT:

A method and device are provided for controlling access to data. Portions of the data are protected and rules concerning access rights to the data are determined. Access to the protected portions of the data is prevented, other than in a non-useable form; and users are provided access to the data only in accordance with the rules as enforced by a mechanism protected by tamper detection. A method is also provided for distributing data for subsequent controlled use of those data. The method includes protecting portions of the data; preventing access to the protected portions of the data other than in a non-useable form; determining rules concerning access rights to the data; protecting the rules; and providing a package including: the protected portions of the data and the protected rules. A user is provided

controlled access to the distributed data only in accordance with the rules as enforced by a mechanism protected by tamper protection. A device is provided for controlling access to data having protected data portions and rules concerning access rights to the data. The device includes means for storing the rules; and means for accessing the protected data portions only in accordance with the rules, whereby user access to the protected data portions is permitted only if the rules indicate that the user is allowed to access the portions of the data.

43 Claims, 34 Drawing figures